ACT/019/003

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May 4, 1978

Mr. Pete Garcia
Dam Review Coordinator
7915 Eastern Avenue
Mailstop 396-FF
Silver Spring, MD 20906

Re: ?
ACT - -

Dear Mr. Garcia:

Enclosed is a copy of the most recent hydrologic study of Moab Wash, San Juan County, Utah. The study's purpose was to determine peak flow at the Atlas Corporation Moab Uranium Mill tailings pond resulting from the probable maximum thunderstorm event. It is important to note that the study and resulting hydrograph does not take into account the effects of man-made structures including the railway fills, and the four bridges that cross the channel.

The Denver and Rio Grande Western railing is built in the southern section of the Moab Wash watershed. Wherever it crosses a drainage earth-fill has been placed and a culvert installed. Runoff from the area above the tracks would therefore be delayed, and considering that 1.42 square miles of the total watershed (25.5 percent) is affected the impact on the hydrograph should be considerable.

Four highway bridges are constructed within the watershed upstream from Atlas: The first is on Ut-279; the second is immediately upstream on Ut-160; the third is at the entrance to Arches National Monument, and the fourth is on the old highway north of the road presently in use. Respective estimated flow capacities for these structures, assuming a hydraulic gradeline slope of 0.01 and Manning's roughness coefficients of 0.013 for concrete and 0.03 for corrugated pipe, are 3800 cfs, 6500 cfs, 3000 cfs, and 1320 cfs. All of the bridges would impound runoff occuring from the probable maximum thunderstorm event and hence would tend to flatten the resulting hydrograph and decrease peak flow.

Flow velocities for Moab Wash at the tailings pond were not calculated as some rather lengthly stage-discharge calculations would have to be completed before the channel areas and resulting flow velocities could be calculated. The present channel cross-sections would probably be altered considerably by runoff occuring from the probable maximum thunderstorm. This would tend to make any estimate of flow velocity based on present channel area, to some degree, unreliable.

I hope that we can discuss the hydrology of the area and its effects on the Moab Mill in the very near future. Thank you.

Sincerely,

K. Michael Thompson

K. MICHAEL THOMPSON
RECLAMATION HYDROLOGIST

/tlb

Enclosure: Study of the Moab Wash